

*Let Your Skin Breathe
by Micro bubbles*



Gold medal and Leading innovation award in 2010 Taipei Invention Show



Love

Nature



ME (주) M E C
MAXIMUM ENGINEERING CO., LTD.

**SALES HEADQUARTER: RELIABLE BEAUTY
SOURCE**

CONTACT PERSON: JACKIE LIM

H.P.: 82 10 2766 1902

E-mail: sales@rbsbeauty.kr

Effects of Micro Bubble

❖ Very fine bubbles producing 5,500°C of heat

50µm-diameter of micro bubbles repeat chain reaction consisted of compression and bursting in a short time. Such reaction is made by the self-compression effect of the very fine bubbles. Self-compression effect is made by the force that surface tension compresses air in the bubbles having global interfaces. At this time, the temperature in the bubbles is instantaneously elevated up to 5,500°C that is equivalent to the surface temperature of the sun.

❖ 400km/h of ultrasonic waves

When micro bubbles burst, 400km/h of ultrasonic waves are generated.

❖ Generation of Free Radicals

When micro bubbles disappear by the self compression effect, free radicals including hydroxyl radicals (OH) are generated. These free radicals decompose various harmful chemicals and bacteria in the water.

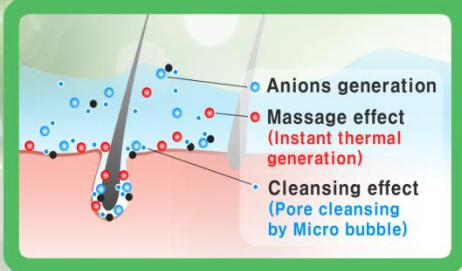
❖ Generation of Anions

Micro bubbles produce anions by more than 10 times compared with waterfalls.

☑ Specific Features

Let your skin breathe by Micro bubbles

Effects of Micro bubbles



Keratin exfoliation

Moisturizing effect

Skin cleansing

SCI

Ultrasonic pretreatment of sludge: A review

Sridhar Pilli^a, Puspendu Bhunia^b, Song Yan^a, R.J. LeBlanc^c, R.D. Tyagi^{a*}, R.Y. Surampalli^d

^a INRS Eau, Terre, Environnement, 490, rue de la Couronne, Québec, Canada G1K 9A9

^b Dept. of Civil Engineering, Indian Institute of Technology, Bhubaneswar 751 013, India

^c GMSC, 355 Hillsborough Road, Riverview, NB, Canada E1B 1S5

^d US Environmental Protection Agency, P.O. Box 17-2141, Kansas City, KS 66117, USA

Features of Micro bubbles

- Instant high heat generation (Approx. 5,500 °C)
- Ultrasonic waves generation when bubbles burst (Approx. 400km/h)
- 10~20 times more generation than an amount of near the waterfall (Anions)
- Absorbing pollutants by superfine bubbles

Rise up to water surface
Dissolution of bubbles

Normal bubble

Anions generation

Micro bubbles

VS

Test of Micro bubbles generation
You can see vividly the micro bubbles by Lona shower head in water

저사 일반 샤워기 마이크로 버블 샤워기

☑ Micro Bubble Effect

❖ Appraisal of the skin cleanness property using very fine bubbles (Aug 2008) – Dankook University

- Result: When the cleanness property was appraised, **contaminant removal function showed high performance.**

They were especially effective in removing powders and water-soluble coloring agents.

❖ Quality change of strawberries depending upon the washing time using micro bubbles.

- Korea Food Research Institute

- When strawberries were washed with micro bubbles and the quality was inspected after storing them for 3 days, the effect was better than the case of common washing.

❖ A test to evaluate the improvement effect of micro bubbles to atopic dermatitis

Tested by Dermapro Co., Ltd and Institute of Dermatological Science Research from 28 May to 17 July, 2007

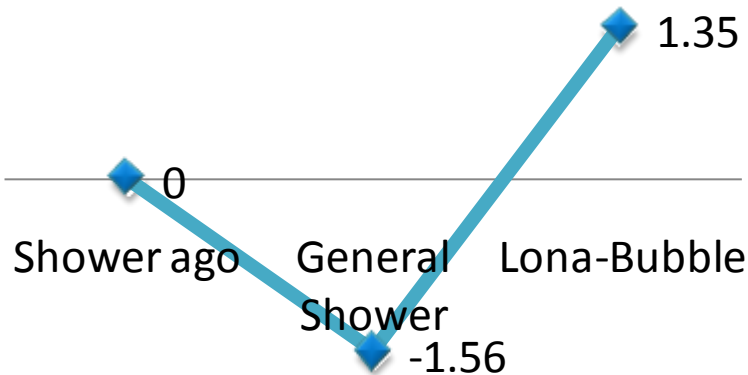
Result: Self evaluation (tester) – Pruritus, skin cracking, peeling of thin skin pieces, skin dryness, and roughness **were improved.**

Result of measurement of transepidermal water loss (TEWL) – Reduced at all time points

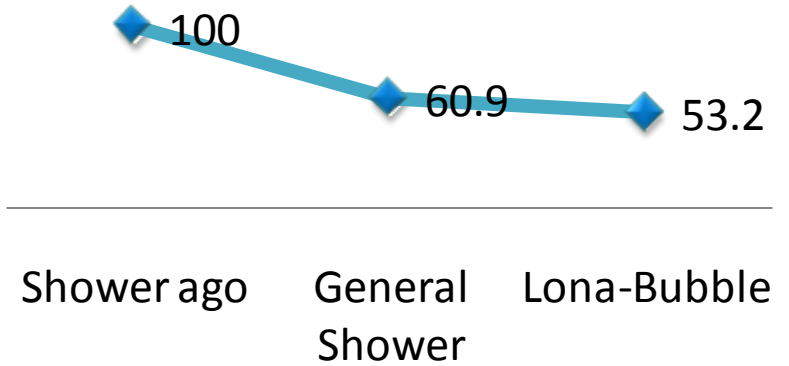


Photograph of a clinical trial

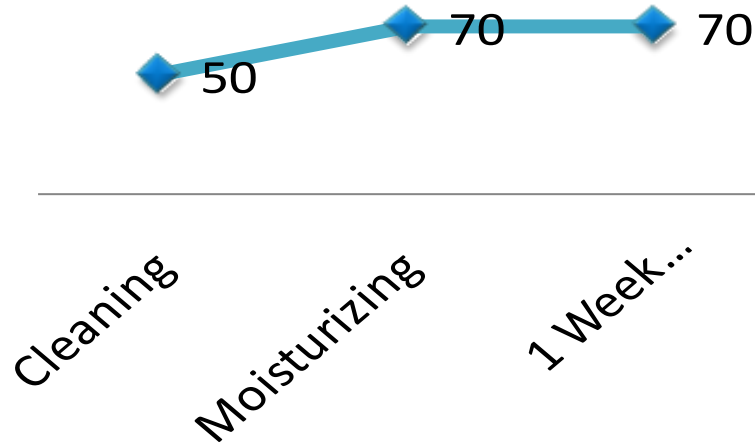
Moisturizing effect



Lipstick cleaning



Satisfaction

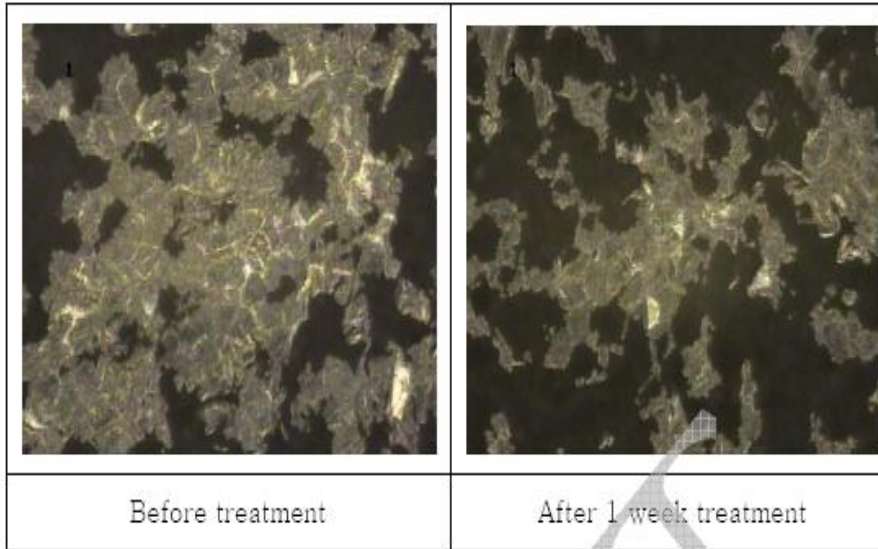


Clinical Trials

- DERMAPRO

(KFDA Clinical testing and certification agencies)

Keratin exfoliation



Tester Evaluation

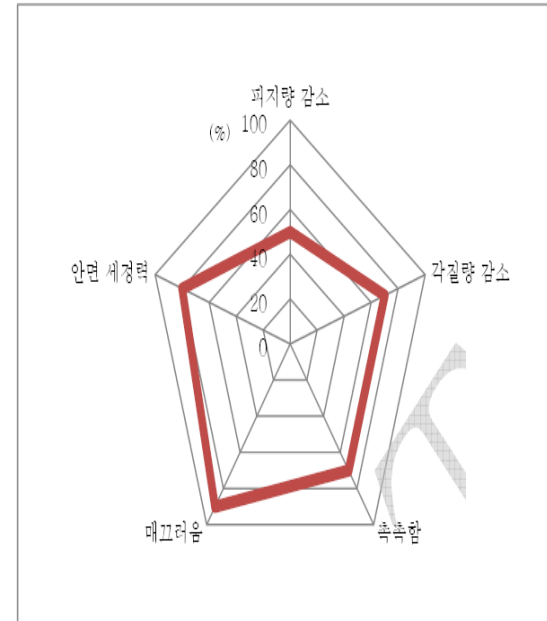
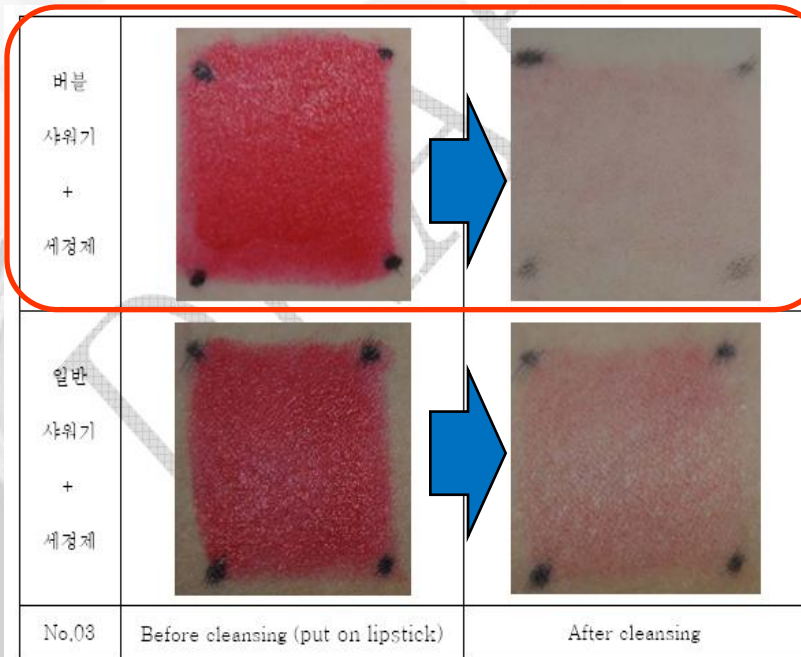


Fig. 14 Comparative sensorial profile of the micro-bubble shower after 1 week

Skin cleansing





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24151 EL TRADORE CIR. MISSION VIEJO, CA. 92691 USA . TEL : +1-800-306-8430

Classification and Regulatory Pathway for the:

- 1 Lona-Bubble Shower
- 2 Micro-Bubble Shower Massage & Treatment

Under the U.S. Medical Device Regulation of the FDA (Food and Drug Administration)

Prepared for: **MEC Co., Ltd.**
B143-L14, Gojan-Dong, Namdong-Gu,
Incheon, 405-821, Korea Republic of

Prepared by : **Jonathan Koshak, MD**
Senior Medical Device Consultant

Assisted by : **Ellen Parson, MS**
Office of the International Consulting

Date : Dec. 10, 2010

FDA Registry & Associates, Inc.
A Private Consulting Group

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<http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfRL/rl.cfm?lid=266630&lpd=ILS>

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Proprietary Name:	LONA-BUBBLE SHOWER; MICRO-BUBBLE SHOWER MASSAGE & TREATMENT
Classification Name:	ADAPTOR, HYGIENE
Product Code:	ILS
Device Class:	1
Regulation Number:	890.5050
Medical Specialty:	Physical Medicine
Registered Establishment Name:	MEC_CO_LTD.
Owner/Operator:	MEC_CO_LTD.
Owner/Operator Number:	10034453
Establishment Operations:	Manufacturer

Page Last Updated: 12/07/2010

Certificate of Korea Eco Label

Certificate No. : 8213

We hereby certify that the following products comply with the criteria under the Environmental Technology Development and Promotion Act and are granted to use the Korea Eco-Label.

Licensee : MEC Co., Ltd.

Address 143B 14L, Namdong Industrial Complex 718-12,
Gojan-Dong, Namdong-Gu, Incheon, Korea

Factory 143B 14L, Namdong Industrial Complex 718-12,
address Gojan-Dong, Namdong-Gu, Incheon, Korea

Name of Brand : Lona-Bubble (B200) / Water-saving
Showerheads

Product category : EI222. Water-saving Showerheads and
Faucet Components

Reason for Certification : "Less harmful substances for
body, Water-Saving"

Valid until : November 30, 2012 Issued : December 1, 2010

president of Korea Environmental Industry
& Technology Institute

Sangil Kim



Less harmful substances for body
Water-saving

☑ Before and After



☑ Magnified High-Speed Filming

Micro Bubble Shower

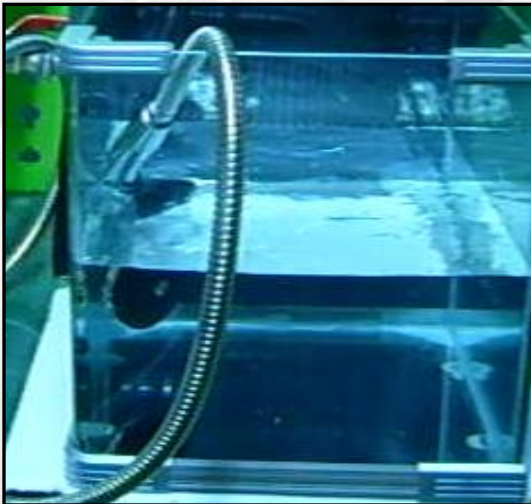
Common Shower



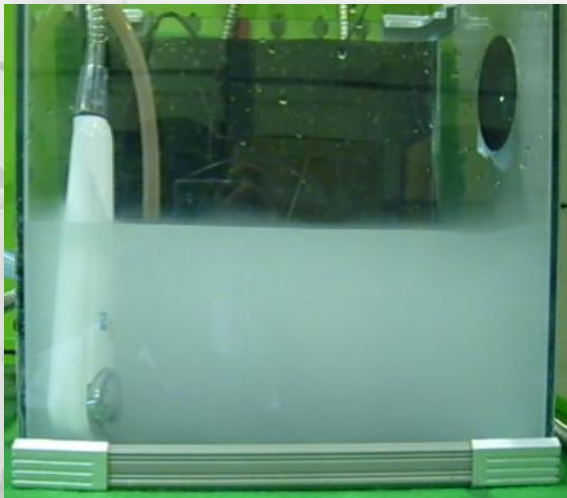
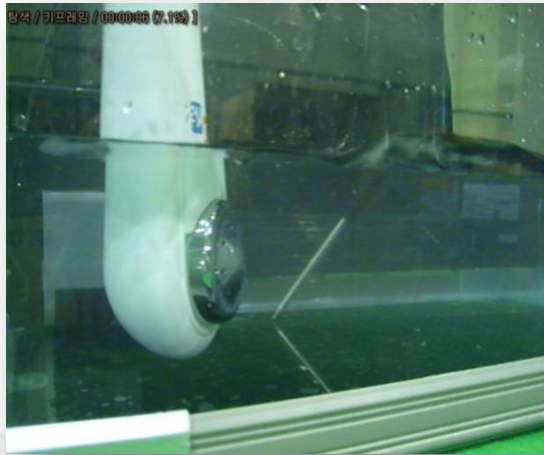
Photographs showing the generation of micro bubbles (black dots) using Micro Bubble Shower and common shower (50X high-speed camera)
(Common shower does not generate micro bubbles.)

☑ Micro Bubble Test

Common Shower



Micro Bubble Shower



Before generating micro bubbles



When the water is collected using Micro Bubble Shower, micro bubbles are generated in mass quantity in the water and the water becomes milky color.